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44. PULMONARY LESIONS FOLLOWING INTRAVENOUS INOCULATION WITH A HIGH CONCENTRATION OF STAPHYLOCOCCUS AUREUS IN PIGS

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Introduction

Following intravenous inoculation of Staphylococcus aureus pigs are prone to develop low grade sepsis. The porcine lung plays an important role in clearing systemic bacterial infections. We investigated pulmonary changes after increasing the concentration of S. aureus in the inoculum.

Material and methods

Five pigs were intravenously inoculated with S. aureus (1 x 10e8 CFU/kg body weight), two control animals were sham-inoculated. Blood samples for bacterial cultivation were taken at regular intervals before and after inoculation. By 48 hours all animals were euthanized, necropsied and tissue was sampled for histological examination.

Results

All five infected animals had disseminated pulmonary abscesses with thickening of surrounding alveolar septa. Furthermore, areas of necrosis, haemorrhage, fibrinous exudation and oedema were seen in two pigs.

After 6 hours most infected animals had cleared the bacteria from the blood, however high concentrations were found in the lungs post mortem.

The pulmonary lesions were more severe compared to those of earlier studies using the same bacterial dose suspended in a higher volume.

Conclusion

With increased inoculum concentration of S. aureus more severe pulmonary changes are observed, possibly creating a focus of cytokines from the lungs.

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